***** CONFIDENTIAL *****
***** PREDECISIONAL DOCUMENT *****

SUMMARY SCORESHEET
FOR COMPUTING PROJECTED HRS SCORE

SITE NAME: SOLAR TURBINES INTERNATIONAL

CITY, COUNTY: SAN DIEGO

EPA ID #: CAD008314908 EVALUATOR: LAURA KADLECIK

PROGRAM ACCOUNT #: FCA1606RAA DATE: APRIL 30, 1991

Lat/Long: 32° 42'55" / 177° 11' 50" T/R/S: T16SR3W

THIS SCORESHEET IS FOR A: PA ____ SSI ____ LSI ____

SIRe ____ PA Redo ____ Other (Specify) RCRA-PA

RCRA STATUS (check all that apply):

X Generator ___ Small Quantity Generator ___ Transporter ___ TSDF

___ Not Listed in RCRA Database as of (date of printout) / /

STATE SUPERFUND STATUS:

___ BEP (date) / / ___ WQARF (date) / /

X No State Superfund Status (date) 1/ 190

	S pathway	S^2 pathway
Groundwater Migration Pathway Score (S_{gw})	0	0
Surface Water Migration Pathway Score (S_{sw})	0.25	0.06
Soil Exposure Pathway Score (S_s)	—	—
Air Migration Pathway Score (S_a)	3.16	9.99
$S^2_{gw} + S^2_{sw} + S^2_s + S^2_a$		10.05
$(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		2.51
$\sqrt{(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4}$		1.61

*Pathways not assigned a score (explain):
SOIL EXPOSURE NOT EVALUATED BECAUSE ENTIRE SITE IS PAVED AND THE ABOVE GROUND WASTES APPEAR TO HAVE ADEQUATE CONTAINMENT.

>/hrs

14-March-1991

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release	Maximum Value	Projected Score	Rationale	Data Qual.
1.	Observed Release	550	0	1	
2.	Potential to Release				
	2a. Containment	10	1	2	
	2b. Net Precipitation	10	1	3	
	2c. Depth to Aquifer	5	5	4	
	2d. Travel Time	35	25	5	
	2e. Potential to Release [Lines 2a x (2b+2c+2d)]	500	217		
3.	Likelihood of Release (Higher of lines 1 or 2e)	550	217		
	Waste Characteristics				
4.	Toxicity/Mobility	a	10	6	
5.	Hazardous Waste Quantity	a	100	7	
6.	Waste Characteristics (lines 4 x 5, then use Table 2-7)	100	3		
	Targets				
7.	Nearest Well	50	0	8	
8.	Population[d]				
	8a. Level I Concentrations	b	—		
	8b. Level II Concentrations	b	—		
	8c. Potential Contamination	b	—		
	8d. Population (lines 8a+8b+8c)	b	—		
9.	Resources	5	0	8	
10.	Wellhead Protection Area	20	0		
11.	Targets (lines 7+8d+9+10)	b	0		
	Likelihood of Release				
12.	Aquifer Score [(Lines 3 x 6 x 11)/82,500][c]	100	0		

Groundwater Migration Pathway Score

13.	Pathway Score (Sgw), (highest value from line 12 for all aquifers evaluated)	100	0 [c]

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c Do not round to the nearest integer.
d Use additional tables.

/hrs Aquifer Evaluated _____ 14-March-1991

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors

DRINKING WATER THREAT

	Likelihood of Release	Maximum Value	Projected Score	Rationale	Data Qual.
1.	Observed Release	550	0		
2.	Potential to Release by Overland Flow				
	2a. Containment	10	7	9.	
	2b. Runoff	25	1	10.	
	2c. Distance to Surface Water	25	20	11	
	2d. Potential to Release by Overland Flow [lines 2a x (2b+2c)]	500	147		
3.	Potential to Release by Flood				
	3a. Containment (Flood)	10	10	12.	
	3b. Flood Frequency	50	25	13.	
	3c. Potential to Release by Flood (lines 3a x 3b)	500	250		
4.	Potential to Release (Lines 2d+3c, subject to a maximum of 500)	500	397		
5.	Likelihood of Release (Higher of lines 1 or 4)	550	397		
	Waste Characteristics				
6.	Toxicity/Persistence	a	400	14	
7.	Hazardous Waste Quantity	a	100	7	
8.	Waste Characteristics (lines 6 x 7, then assign a value from Table 2-7)	100	10		
	Targets				
9.	Nearest Intake	50	0	10	
10.	Population[d]				
	10a. Level I Concentrations	b	—		
	10b. Level II Concentrations	b	—		
	10c. Potential Contamination	b	0		
	10d. Population (lines 10a + 10b+10c)	b	0		
11.	Resources	5	5	16	
12.	Targets (lines 9+10d+11)	b	5		
	Drinking Water Threat Score				
13.	Drinking Water Threat [(Lines 5 x 8 x 12)/82,500, subject to a maximum of 100]	100	0.24		

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (CONTINUED)

Factor Categories and Factors

HUMAN FOOD CHAIN THREAT

	Likelihood of Release	Maximum Value	Projected Score	Rationale	Data Qual.
14.	Likelihood of Release (Same value as line 5)	550	391		
	Waste Characteristics				
15.	Toxicity/Persistence/ Bioaccumulation	a	50000	17	
16.	Hazardous Waste Quantity	a	100	7	
17.	Waste Characteristics (Toxicity/Persistence x Hazardous Waste Quantity x Bioaccumulation, then assign a value from Table 2-7)	1,000	32		
	Targets				
18.	Food Chain Individual	50	0	18	
19.	Population[d]				
	19a. Level I Concentrations	b	—		
	19b. Level II Concentrations	b	—		
	19c. Potential Human Food Chain Contamination	b	—		
	19d. Population (lines 19a+19b+19c)	b	0.04	18	
20.	Targets (lines 18+19d)	b	0.04		
	Human Food Chain Threat Score				
21.	Human Food Chain Threat [(Lines 14 x 17 x 20)/82,500 subject to a maximum of 100]	100	0.01		

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (CONTINUED)

Factor Categories and Factors

ENVIRONMENTAL THREAT

	Liklelihood of Release	Maximum Value	Projected Score	Rationale	Data Qual.
22.	Likelihood of Release (Same value as line 5)	550	391		
	Waste Characteristics				
23.	Ecosystem Toxicity/Persistence/ Bioaccumulation	a	500000	19	
24.	Hazardous Waste Quantity	a	100	7	
25.	Waste Characteristics (Ecosystem Tox./Persistence x Hazardous Waste Quantity x Bioaccumulation, then assign a value from Table 2-7)	1,000	56		
	Targets				
26.	Sensitive Environments[d]				
	26a. Level I Concentrations	b	—		
	26b. Level II Concentrations	b	—		
	26c. Potential Contamination	b	0.004		
	26d. Sensitive Environments (lines 26a+26b+26c)	b	0.004		
27.	Targets (Value from line 26d)	b	0.004		
	Environmental Threat Score				
28.	Environmental Threat Score [(lines 22 x 25 x 27)/82,500 subject to a maximum of 60]	60	0.00		

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED

29.	Watershed Score [(Lines 13+21+28), subject to a maximum of 100]	100	0.25[c]	

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE

30.	Component Score (Sof) (Highest score from Line 29 for all watersheds evaluated, subject to a maximum of 100)	100	0.25[c]	

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c Do not round to the nearest integer.
d Use additional tables

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SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT CALCULATIONS (CONTINUED)

20. Food Chain Targets

Actual Contamination

Fishery	Contaminant	Concentration	Benchmark	(A) Assigned Population Value (Table 4-18)	(B) Level* Multiplier	(A x B)
				Sum (A x B) Level I		
				Sum (A x B) Level II		

* Level Multipliers
- Level I = 10
- Level II = 1

Potential Contamination

Fishery	Production (lb/yr)	(P) Assigned Population Value (Table 4-18)	Average Stream Flow at Fishery (cfs)	(DW) Dilution Weighting Factor (Table 4-13)	(P x DW)
LOBSTER	271000	310	SHALLOW	0.0001	0.031
SEA URCHIN	2000 000	3100	OCEAN	0.0001	0.31
ROCK CRAB	171000	310	ZONE	0.0001	0.031
OTHER	260 300	310		0.0001	0.031
				Sum (P x DW)	0.403

Fisheries Subject to Potential Contamination = $\frac{\text{Sum (P x DW)}}{10}$ = 0.04

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AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Maximum Value	Projected Score	Rationale	Data Qual.
Likelihood of Release				
1. Observed Release	550	0		
2. Potential to Release[e]				
2a. Gas Potential	500	135	20	
2b. Particulate Potential	500	93		
2c. Potential to Release (higher of lines 2a and 2b)	500	135		
3. Likelihood of Release (higher of Lines 1 or 2c)	550	135		
Waste Characteristics				
4. Toxicity/Mobility	a	1000	21	
5. Hazardous Waste Quantity	a	100	7	
6. Waste Characteristics (lines 4 x 5, then use Table 2-7)	100	18		
Targets				
7. Nearest Individual	50	1		
8. Population[e]				
8a. Level I Concentrations	b	—		
8b. Level II Concentrations	b	—		
8c. Potential Contamination[e]	b	100.1		
8d. Population (8a+8b+8c)	b	100.1		
9. Resources	5	5		
10. Sensitive Environments[e]				
10a. Actual Contamination	c	—		
10b. Potential Contamination	c	0.64		
10c. Sensitive Environments (lines 10a+10b)	c	0.64		
11. Targets (Lines 7+8d+9+10c)	b	107.34		

Air Pathway Migration Score

12. Air Pathway Score (Sa) [(lines 3 x 6 x 11)/82,500]	100	3.16[d]	

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
d Do not round to nearest integer.
e Use additional tables.

/hrs

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AIR PATHWAY CALCULATIONS

2. Potential to Release

Gas Potential to Release

	Source Type (Name)	Gas Containment Factor Value (Table 6-3)	Gas Source Type Factor Value (Table 6-4)	Gas Migration Potential Factor Value (Table 6-7)	Sum	Gas Source Value
		(A)	(B)	(C)	(B+C)	A x (B+C)
1.	TANKS & CONTAINERS	3	28	17	45	135
2.						
3.						
4.						

Gas Potential to Release Factor Value (Select the highest Gas Source Value): _____

Particulate Potential to Release

	Source Type (Name)	Particulate Containment Factor Value (Table 6-9)	Particulate Source Type Factor Value (Table 6-4)	Particulate Migration Potential Factor Value (Figure 6-2)	Sum	Particulate Source Value
		(A)	(B)	(C)	(B+C)	A x (B+C)
1.	TANKS & CONTAINERS	3	14	17	31	93
2.						
3.						
4.						

Particulate Potential to Release Factor Value (Select the highest Particulate Source Value): 93

AIR PATHWAY CALCULATIONS (CONTINUED)

8. Potential Contamination

Distance (miles)	Total Population Within Distance Ring	(A) Distance-Weighted Population Value (Table 6-17)
On site (0)		522
>0 to 0.25		0
>0.25 to 0.5		0
>0.5 to 1		26
>1 to 2		266
>2 to 3		120
>3 to 4		73
	Sum of (A) =	1007

Air Potential Contamination Factor Value = $\frac{\text{Sum of (A)}}{10}$ = 100.7

10. Sensitive Environments

Actual Contamination

Wetland or Type of Sensitive Environment	(A) Sensitive Environment Rating Value (Table 4-23)	(B) Wetland Rating Value (Table 6-18)	(A + B)

Actual Contamination Factor Value [sum (A + B)] = _____

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AIR PATHWAY CALCULATIONS (CONTINUED)

Potential Contamination

Wetland or Type of Sensitive Environment	(A) Sensitive Environment Rating Value (Table 4-23)	(B) Wetland* Rating Value (Table 6-18)	Distance (miles)	(DW) Distance Weights (Table 6-15)	DW x (A + B)
LEAST TERN	100			0.016	1.6
GNATCATCHER	50			0.016	0.8
SNAKE CHOLLA	50			0.016	0.8
SPINE FLOWER	50			0.016	0.8
MILK VETCH	50			0.016	0.8
BIRDS BEAK	100			0.016	1.6
				Sum DW x (A + B)	6.4

Potential Contamination Sensitive Environments Factor Value = $\frac{\text{Sum DW x (A + B)}}{10}$ = 0.64

* Only assign a Wetland Rating Value once for each wetland within a distance category.

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Site Name _____ City/State _____ Page ___ of ___

HAZARDOUS SUBSTANCES CHARACTERIZATION WORKSHEET

List up to six hazardous substances here----------> Use additional worksheets if there are more than six hazardous substances on site. First indicate which pathways each hazardous substance is available to, and what its overall toxicity is. Complete the remainder of the worksheet by pathway as appropriate.

	CHROMIUM	TCA	TCE	XYLENE	TOLUENE	CHLOROBENZENE	CARBON TETRACHLORIDE
Pathways: A, GW, SW, OS							
Toxicity	1	10	10	1	10	100	1000
AIR: Gas.-G/Part.-P/Both-B							
Gas Mobility*	0	1	1	1	1	1	1
Particulate Mobility*	1	0	0	0	0	0	0
GAS MIGRATION ~~Source Mobility~~*	6	11	11	11	11	11	11
Toxicity/Mobility*	1	10	10	1	10	100	1000
GROUNDWATER: Mobility	0.00002	0.01	0.01	0.01	0.01	0.01	0.01
Toxicity/Mobility	2×10^{-5}	0.1	0.1	0.01	0.1	1	10
SURFACE WATER: Pers., (River)	1	0.4	0.4	0.0007	0.4	0.4	0.4
Persistence, Lake	1	0.4	0.4	0.4	0.4	0.4	0.4
DRINKING WATER: Tox/Pers	1	4	4	0.4	4	40	400
Bioaccumulation Factor (BCF)	50000	50	50	500	50	50	50
FOOD CHAIN: Tox/Pers**/BCF	50000	200	200	200	200	2000	20000
Ecosystem Toxicity, Fresh	10	10	0	100	100	1000	10
Ecosystem Toxicity, (Salt) ECO TOX/PER	10/10	0/0	0/0	10/.007	100/40	0/0	100/40
ENVIRONMENTAL: Tox/Pers***/BCF	500000	0	0	3.5	2000	0	2000

*Mobility values are used to evaluate both Source Mobility and Tox/Mobility. Note specific rules for each (See Sections 2.1.2.3 and 2.2.1.2).
**Only complete for hazardous substance avail. to SW with highest BCF factor.
***Use Ecosystem toxicity (fresh or salt, as appropriate).

RATIONALE

1. FIT was unable to find any documentation of groundwater contamination.

2. Those sources which contain the highest containment value are 55-gallon drums stored in the hazardous waste storage yard. There has been no hazardous substance migration from containers in the area. The area is surrounded by sound diking and has an essentially impervious base of asphalt.

3. Net PPT is 3 inches.

4, Depth to aquifer is 20 feet.

5. Soils 10-20 feet beneath the site consist primarily of fine silty sand deposits exhibiting a hydraulic conductivity of 1×10^{-4} cm/s.

6. Carbon tetrachloride gives the highest toxicity/mobility value. (See attached worksheet).

7. Hazardous waste quantity in 1989 was approximately 995,000 pounds (4,975 cubic yards). The waste included process waste and contaminated soil.

8. Groundwater is not used for any purpose within 4 miles of the site.

9. The facility has a maintained cover and some locations on site have a run-off system.

10. Soils beneath the site are comprised of silty and clayey fine-grained sand, and belong to soil group designation D. The drainage area is less than 50. The 2-year, 24-hour rainfall is 1.8 inches.

11. San Diego Bay is 300 feet west of the facility.

12. Containment of sources at the site are not designed to prevent a washout of hazardous substances by a flood.

13. The facility lies in a 100-year floodplain.

14. Carbon tetrachloride gives the highest toxicity/persistence value (See attached worksheet).

15. Surface water located within 15 miles of the site is not used for drinking purposes.

16. San Diego Bay, 200 feet from the site, is a major recreation are.

17. Chromium gives the highest toxicity/persistence/BCF value (See attached worksheet).

lk/st/rat

RATIONALE (Cont.)

18. In 1989 the commercial fishery within 15 miles of the site caught: 271,000 lbs. of Spiny Lobster; 2,000,000 lbs. of Sea Urchin; 177,000 lbs. of Rock Crab; and 260,300 lbs. of 'other' fish including 53,000 lbs. of Halibut, 7,300 lbs. of White Sea Bass and 200,000 lbs. of Rock Fish.

19. Chromium gives the highest ecotoxicity/persistence/BCF value (See attached worksheet).

20. Source types consist of above ground storage tanks and drums.

21. Carbon tetrachloride gives the highest toxicity/mobility factor (See attached worksheet).

lk/st/rat